

REMARKS

I

In accordance with 37 CFR §1.607(a)(1), applicant respectfully requests to have an interference proceeding declared between the current application and US patent 5,419,321 (the '321 patent) which issued on May 30, 1995, to Peter D. Evans. Claims 54 and 55, as presented above, were copied from claims 1 and 2 of the '321 patent.

II

In accordance with 37 CFR §1.607(a)(2), applicant presents the following two proposed counts:

PROPOSED COUNT 1

Apparatus for non-invasive monitoring of a substance in living tissue, which apparatus comprises:

- a) emitter means capable of emitting electromagnetic radiation, said emitter means being arrangable in use in contact with the skin, tissue or an organ of a patient;
- b) first radiation detection means arrangable in use in contact with the skin, tissue or organ of said patient, said first radiation detection means being spaced from said emitter means to detect radiation which has been scattered and attenuated by the skin, tissue or organ of said patient;

- c) means for producing a first electrical output signal dependent on the intensity of the radiation detected by said first radiation detection means;
- d) second radiation detection means arrangable in use in contact with the skin, tissue or organ of said patient, said second radiation detection means being spaced farther away from said emitter means than said first radiation detection means and be in a ranged to detect radiation which has been scattered and attenuated by the skin, tissue or organ of said patient;
- e) means for producing a second electrical output signal dependent on the intensity of the radiation detected by said second radiation means;
- f) processor means providing a quantitative measure of said substance in said living tissue, said quantitative measure being dependent on the ratio of said first and second output signals.

PROPOSED COUNT 2

A method for the non-invasive measurement of a substance in living tissue comprising:

contacting a patient with an emitter means and a first and second detection means;

emitting electromagnetic radiation through said emitter means into said patient;

detecting electromagnetic radiation which has been scattered and attenuated by said patient with said first and second radiation detection means; and

producing a quantitative measure of said substance in said living tissue by determining the ratio of the intensities of said electromagnetic radiation detected by said first and second radiation detection means.

III

In accordance with 37 CFR §1.607(a)(3), claim 1 issued in the '321 patent corresponds exactly to proposed count 1, whereas, claim 2 issued in the '321 patent corresponds substantially to proposed count 2¹.

IV

In accordance with 37 CFR §1.607(4), claims 54 and 55 of the current application, as presented above, correspond exactly to proposed counts 1 and 2.

V

In accordance with 37 CFR §1.607(a)(5), newly presented claims 54 and 55 specifically apply to applicant's disclosure as described in the tables below.

¹ Proposed count 2 does not make reference to "said apparatus of claim 1" as does claim 2 of the '321 patent.

CLAIM 54		APPLICANT'S DISCLOSURE
Apparatus for non-invasive monitoring of a substance in living tissue, which apparatus comprises:		See page 1, lines 1-8.
<p>a) emitter means capable of emitting electromagnetic radiation, said emitter means being arrangable in use in contact with the skin, tissue or an organ of a patient;</p>		<p>See conical annular spaces 11-14 and optical fibers 16-17, as shown on Figure 1 and described on page 5, line 34 and page 6, lines 1-4.</p> <p>See also a means for producing illumination as described on page 4, lines 30-33.</p> <p>See also claim 26, as originally filed, as described on page 17, lines 17-19.</p> <p>See also page 12, lines 8-12.</p>
<p>b) first radiation detection means arrangable in use in contact with the skin, tissue or organ of said patient, said first radiation detection means being spaced from said emitter means to detect radiation which has been scattered and attenuated by the skin, tissue or organ of said patient;</p>		<p>See a central aperture as shown in Figure 2 and described on page 8, lines 26-35.</p> <p>See also a means for sensing optical information as described on page 4, lines 33-34.</p> <p>See also claim 26, as originally filed, as described on page 17, lines 11-15.</p> <p>See also page 12, lines 8-12.</p>
<p>c) means for producing a first electrical output signal dependent on the intensity of the radiation detected by said first radiation detection means;</p>		<p>See a detection system as described on page 6, lines 11-14.</p> <p>See also a means for developing a plurality of independent signals as described on page 4, line 34 and page 5, lines 1-3.</p> <p>See also claim 26, as originally filed, as described on page 17, lines 15-16.</p>

CLAIM 54		APPLICANT'S DISCLOSURE
<p>d) second radiation detection means arrangable in use in contact with the skin, tissue or organ of said patient, said second radiation detection means being spaced farther away from said emitter means than said first radiation detection means and be in a ranged to detect radiation which has been scattered and attenuated by the skin, tissue or organ of said patient;</p>		<p>See "additional rings of smaller area" as shown on Figure 2, and described on page 8, lines 26-35.</p> <p>See also a means for sensing optical information as described on page 4, lines 33-34.</p> <p>See also claim 26, as originally filed, as described on page 17, lines 11-15.</p> <p>See also page 12, lines 8-12.</p>
<p>e) means for producing a second electrical output signal dependent on the intensity of the radiation detected by said second radiation means;</p>		<p>See a detection system as described on page 6, lines 11-14.</p> <p>See also a means for developing a plurality of independent signals as described on page 4, line 34 and page 5, lines 1-3.</p> <p>See also claim 26, as originally filed, as described on page 17, lines 15-16.</p>
<p>f) processor means providing a quantitative measure of said substance in said living tissue, said quantitative measure being dependent on the ratio of said first and second output signals.</p>		<p>See a processor as described on page 9, lines 5-35.</p> <p>See also a means for processing signals on page 5, lines 5-6.</p> <p>See also claim 26, as originally filed, as described on page 17, lines 20-21.</p>

CLAIM 55		APPLICANT'S DISCLOSURE
A method for the non-invasive measurement of a substance in living tissue comprising:		See page 1, lines 1-8.
contacting a patient with an emitter means and a first and second detection means;		See page 10, lines 19-23.
emitting electromagnetic radiation through said emitter means into said patient;		<p>See page 4, lines 20-22.</p> <p>See also conical annular spaces 11-14 and optical fibers 16-17, as shown on Figure 1 and described on page 5, line 34 and page 6, lines 1-4.</p> <p>See also a means for producing illumination as described on page 4, lines 30-33.</p>
detecting electromagnetic radiation which has been scattered and attenuated by said patient with said first and second radiation detection means; and		<p>See page 4, lines 22-25.</p> <p>See also a central aperture as shown in Figure 2 and described on page 8, lines 26-35.</p> <p>See also a means for sensing optical information as described on page 4, lines 33-34.</p>
producing a quantitative measure of said substance in said living tissue by determining the ratio of the intensities of said electromagnetic radiation detected by said first and second radiation detection means.		<p>See page 4, lines 25-28.</p> <p>See also a processor as described on page 9, lines 5-35.</p> <p>See also a means for processing signals on page 5, lines 3-6.</p>

VI

Applicant complies with the requirements of 37 CFR §1.607(a)(6) given that claims 54 and 55, as defined above, have been presented in the current application less than one year after May 30, 1995, the issue date of the '321 patent.

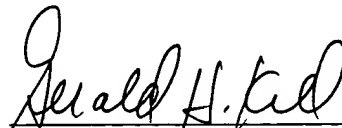
VII

March 1, 1991, the effective filing date of the current application, is before November 16, 1992, the effective filing date of the '321 patent. Therefore, no declarations are required under 37 CFR §1.608².

VIII

Applicant has fully complied with the requirements of 37 CFR §1.607 and requests the Examiner to declare an interference proceeding between the current application and the '321 patent.

Respectfully submitted,
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² In accordance with MPEP § 2308.01, for purposes of complying with 37 CFR § 1.608, the effective filing date of the '321 patent includes the patent's US filing dates, but not its claim for priority based on United Kingdom application 9,011,131.